



Plate Tectonics

Geography of Canada
Mr. J. Brazeau



Planet Earth

1. Geologic History
2. Plate Tectonics
3. Earth's Interior
4. Rock Cycle

Landform Regions in Canada

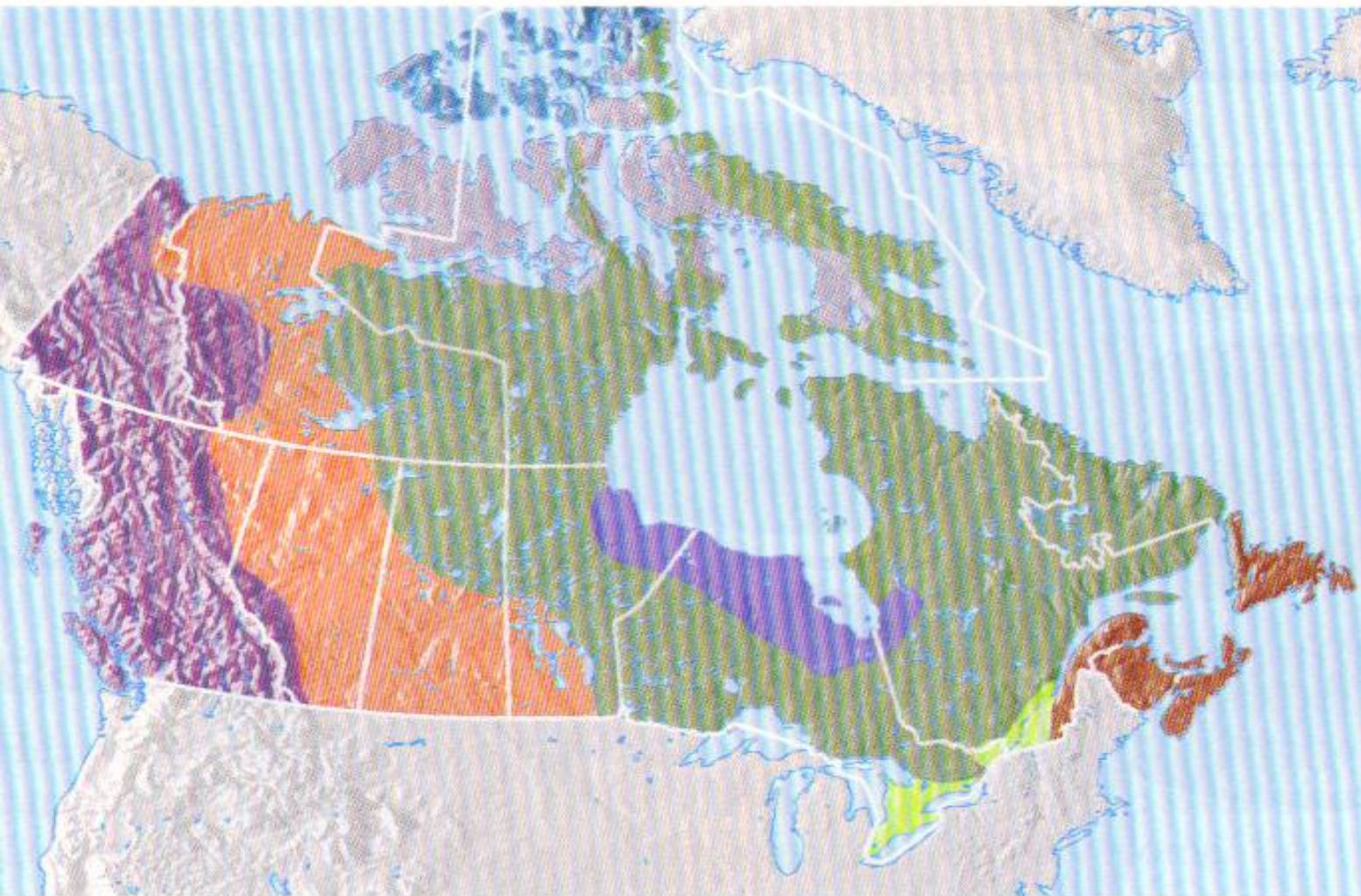


FIGURE 2.2

The Landform Regions in Canada

A region is a part of the earth's surface that has characteristics different from other regions nearby. The Interior Plains region has flat to rolling landforms. The Western Cordillera region has high, sharp-peaked mountains.





The World

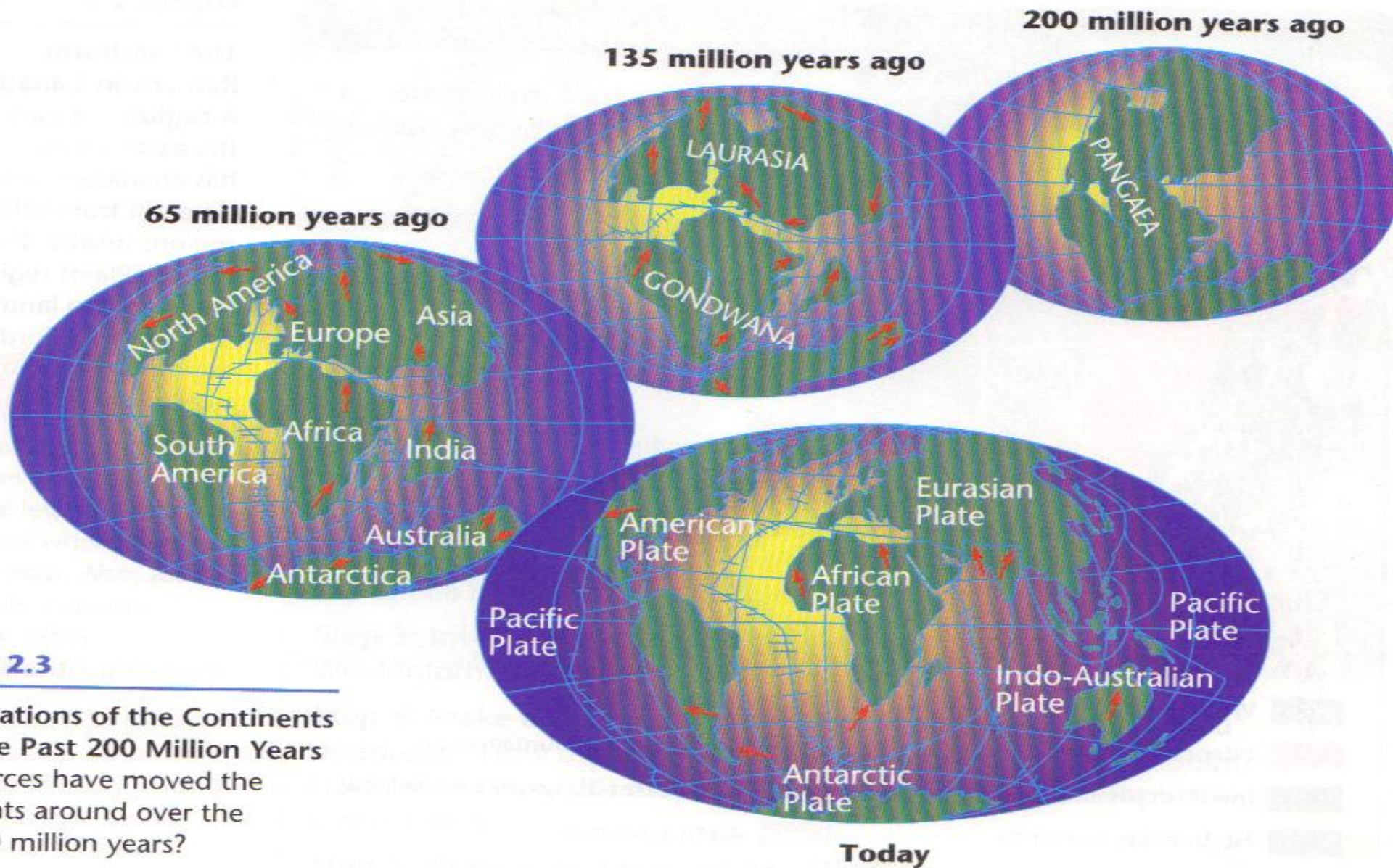


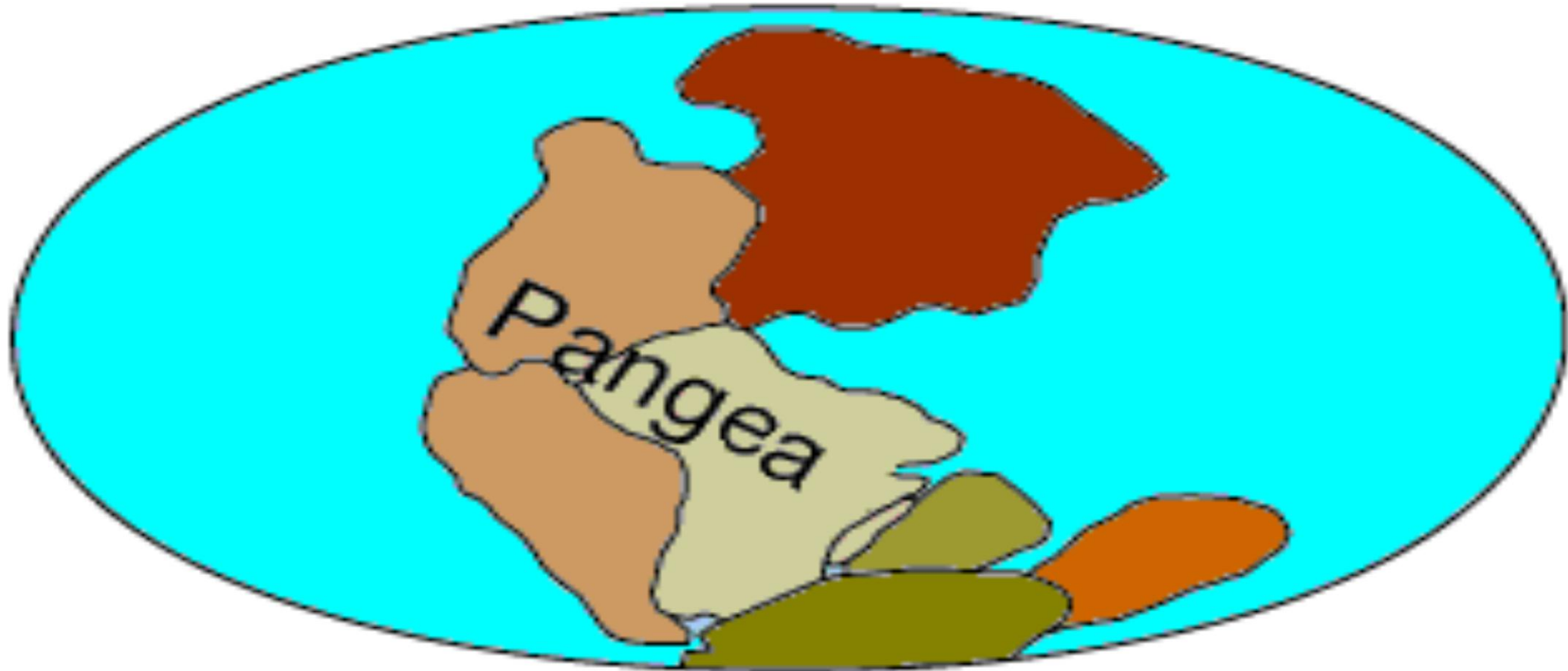
FIGURE 2.3

The Locations of the Continents Over the Past 200 Million Years

What forces have moved the continents around over the past 200 million years?



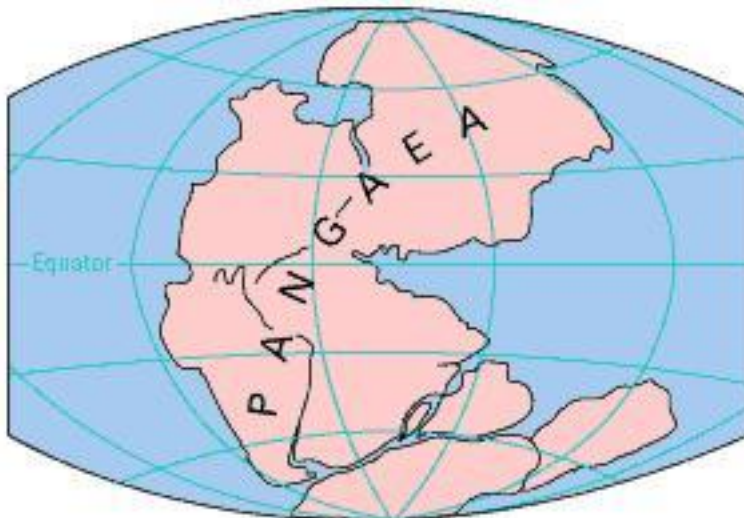
Plate Tectonics - Continental Drift



200 million years ago all of the present-day continents combined to form a single supercontinent called Pangea.



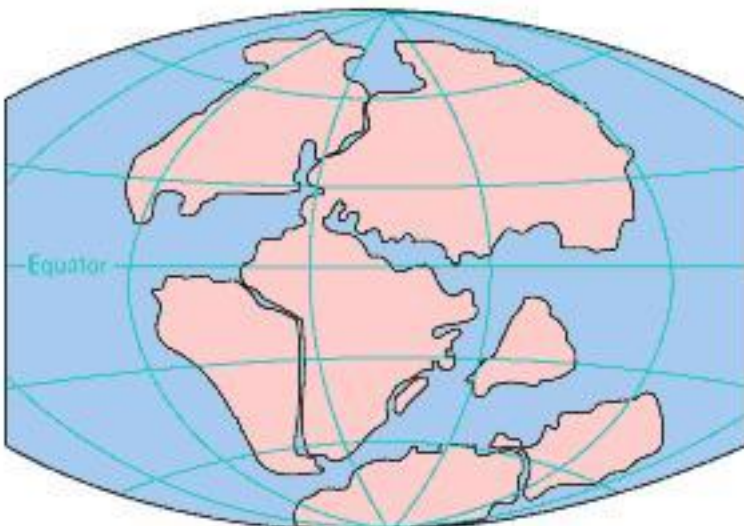
Plate Tectonics - Continental Drift



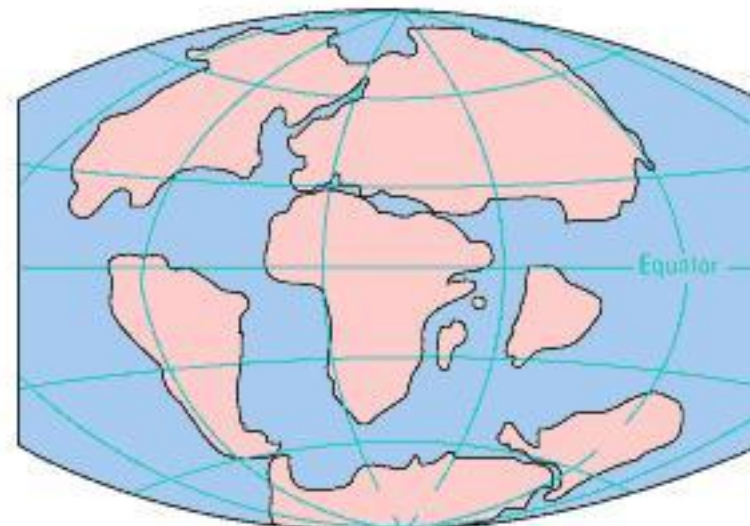
PERMIAN
225 million years ago



TRIASSIC
200 million years ago



JURASSIC
135 million years ago



CRETACEOUS
65 million years ago



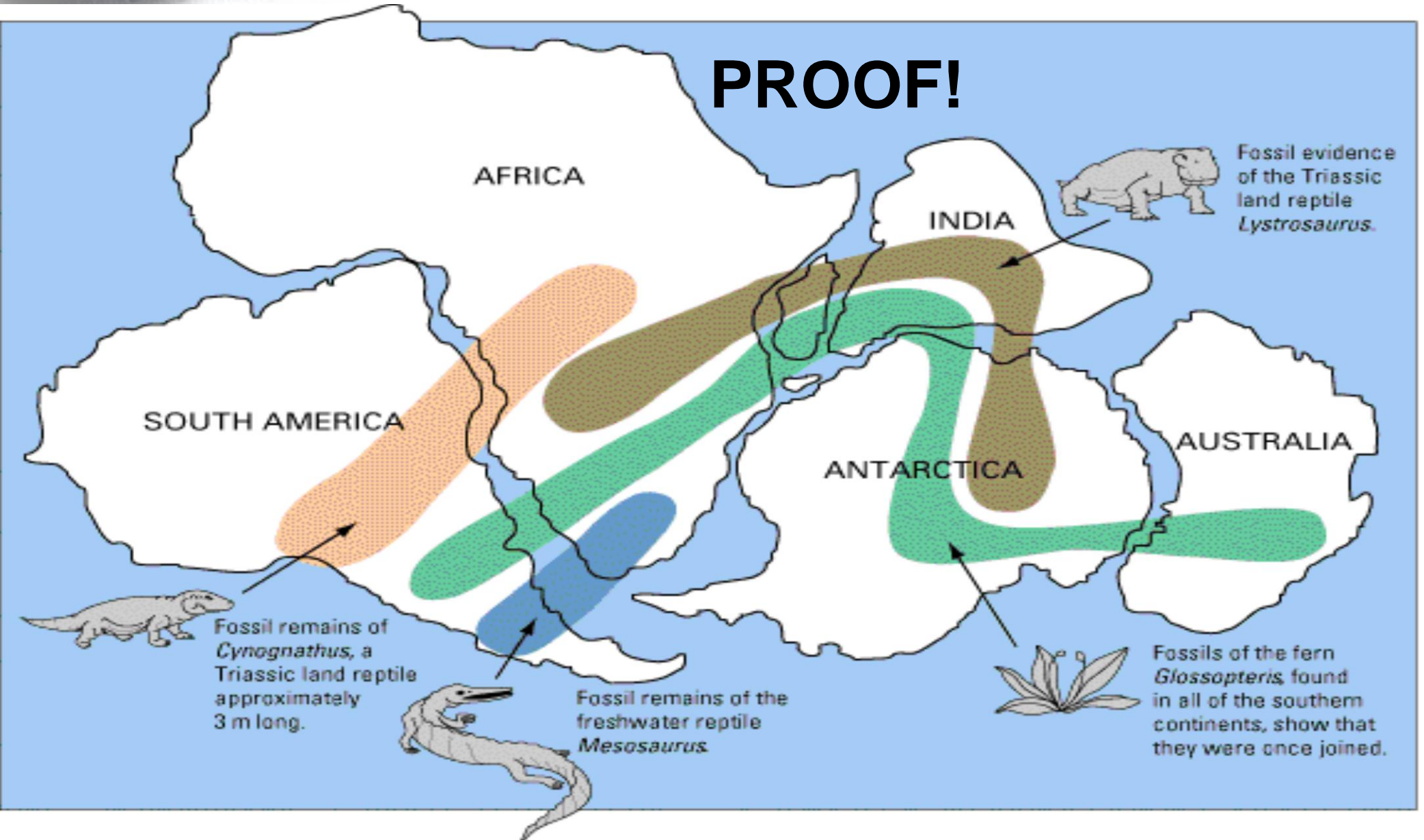
Plate Tectonics - Continental Drift

THE CONTINENTS TODAY





Plate Tectonics - Continental Drift





Global Hotspots

- Heat from the earth's core forms convection currents
- They move the plates around the earth's surface
- The currents cause the plates to move apart or come together
- When plates move apart magma rises through the open space and then cools, causing a ridge



Global Hotspots

- When they come together two things can happen:
- If they crash into each other they form a





Global Hotspots

- If one plate slides below another it creates a

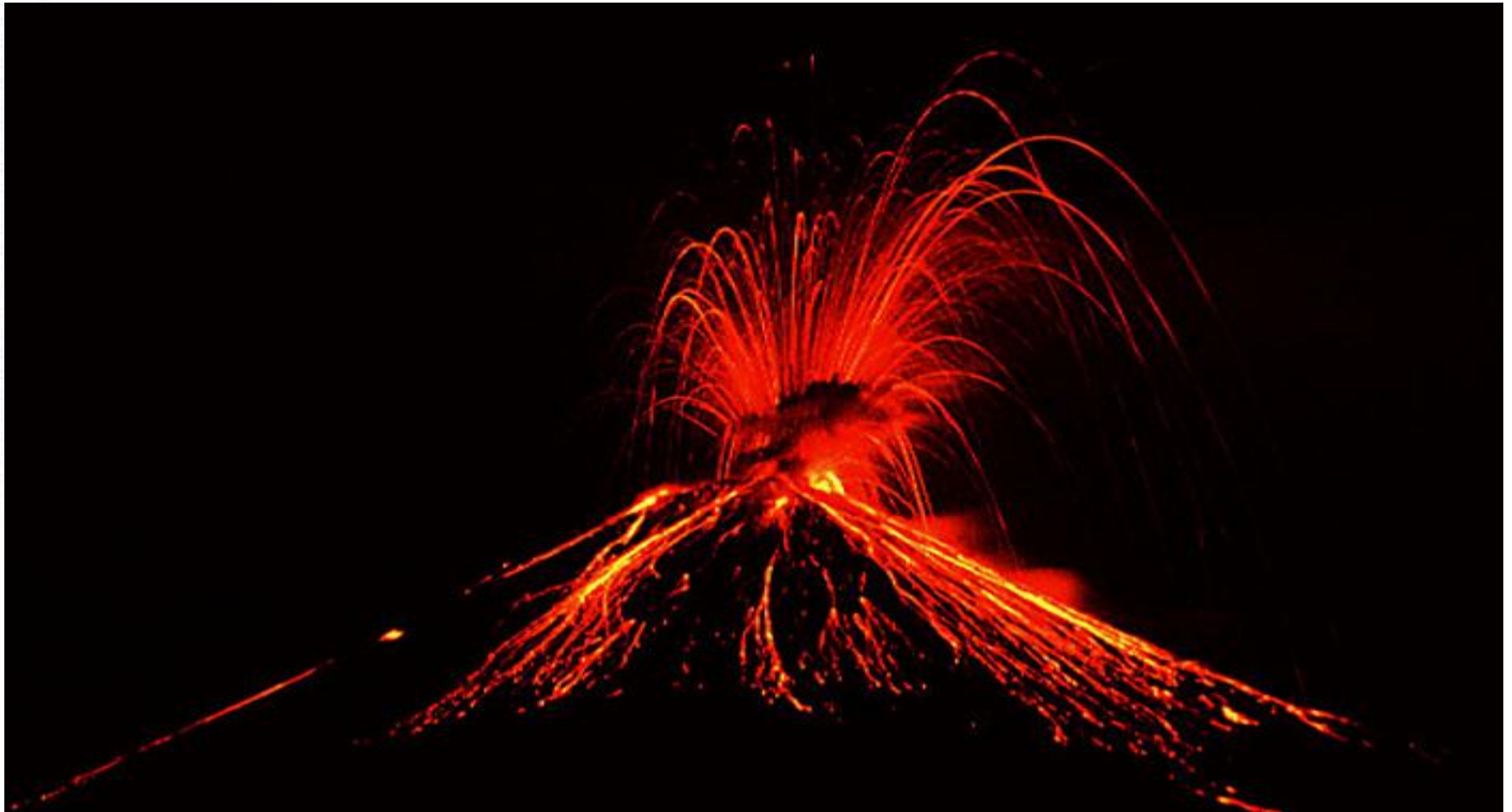




Plate Tectonics Separating

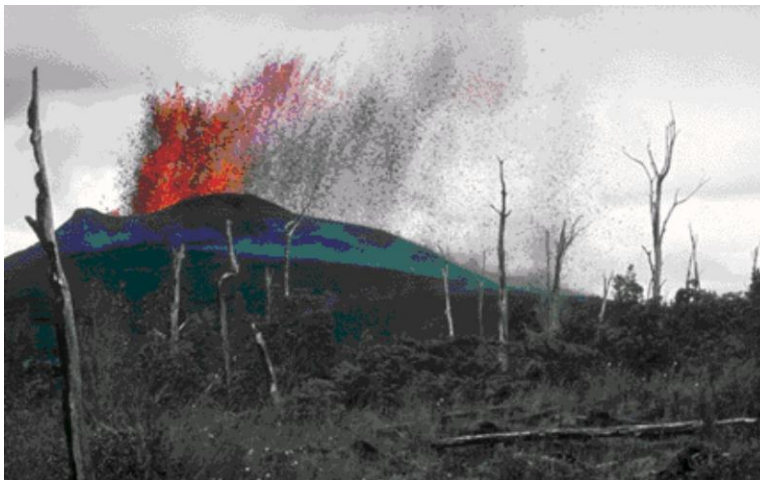




Plate Tectonics Separating

Lava

Ash

Crust

Crater

Side Vent

Magma
Chamber

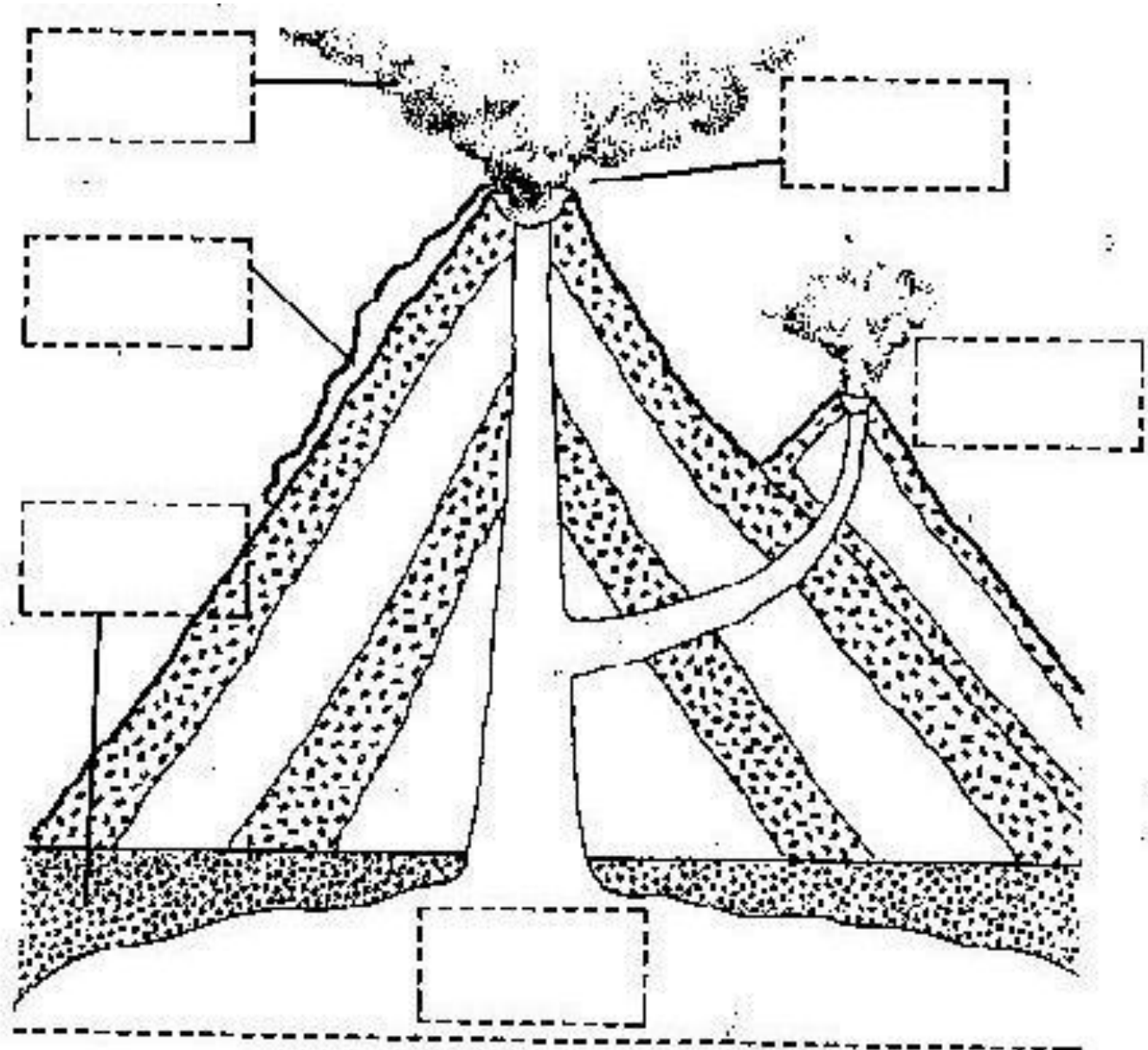
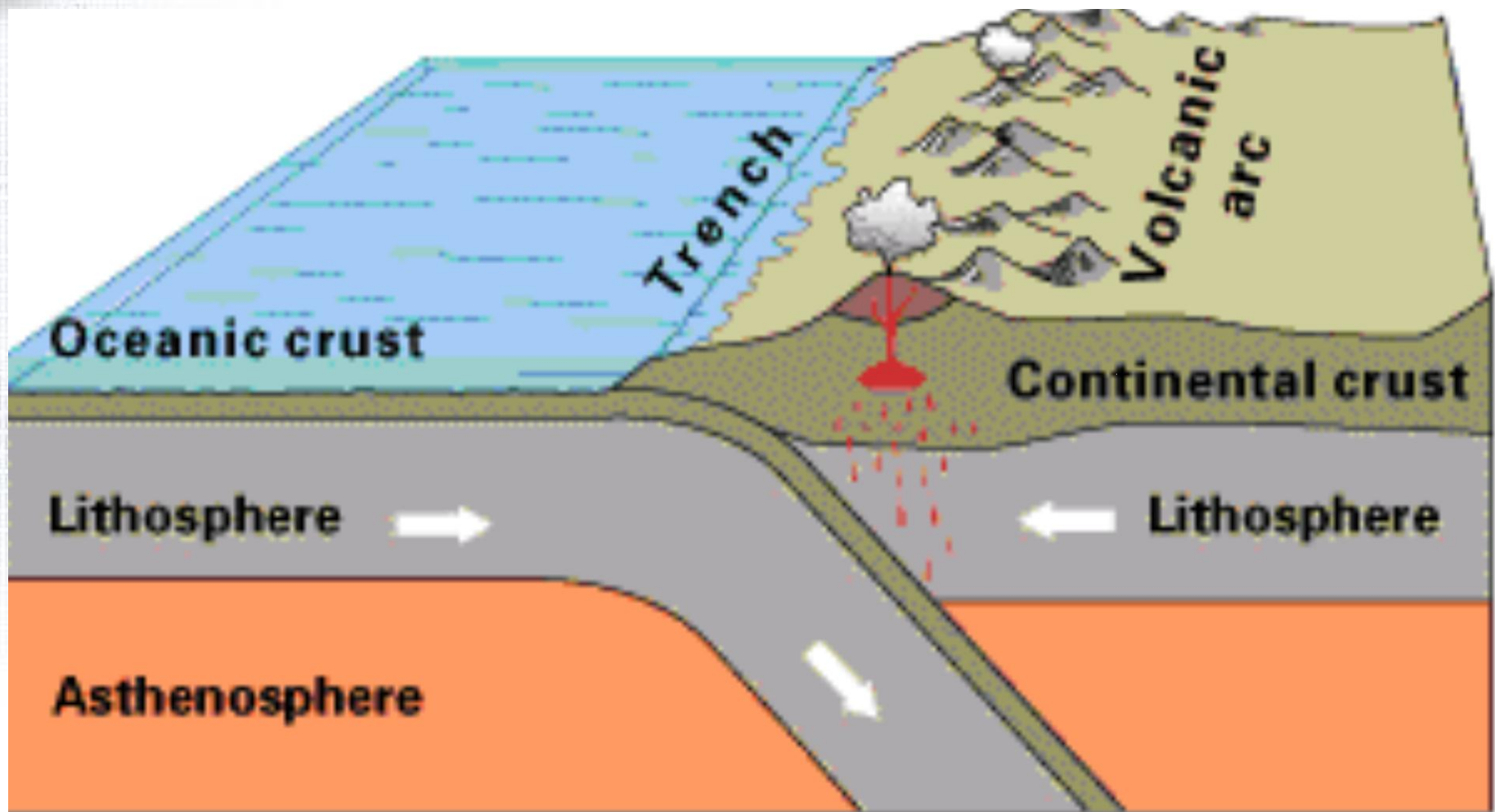




Plate Tectonics Colliding



Oceanic-continental convergence



Plate Tectonics Colliding





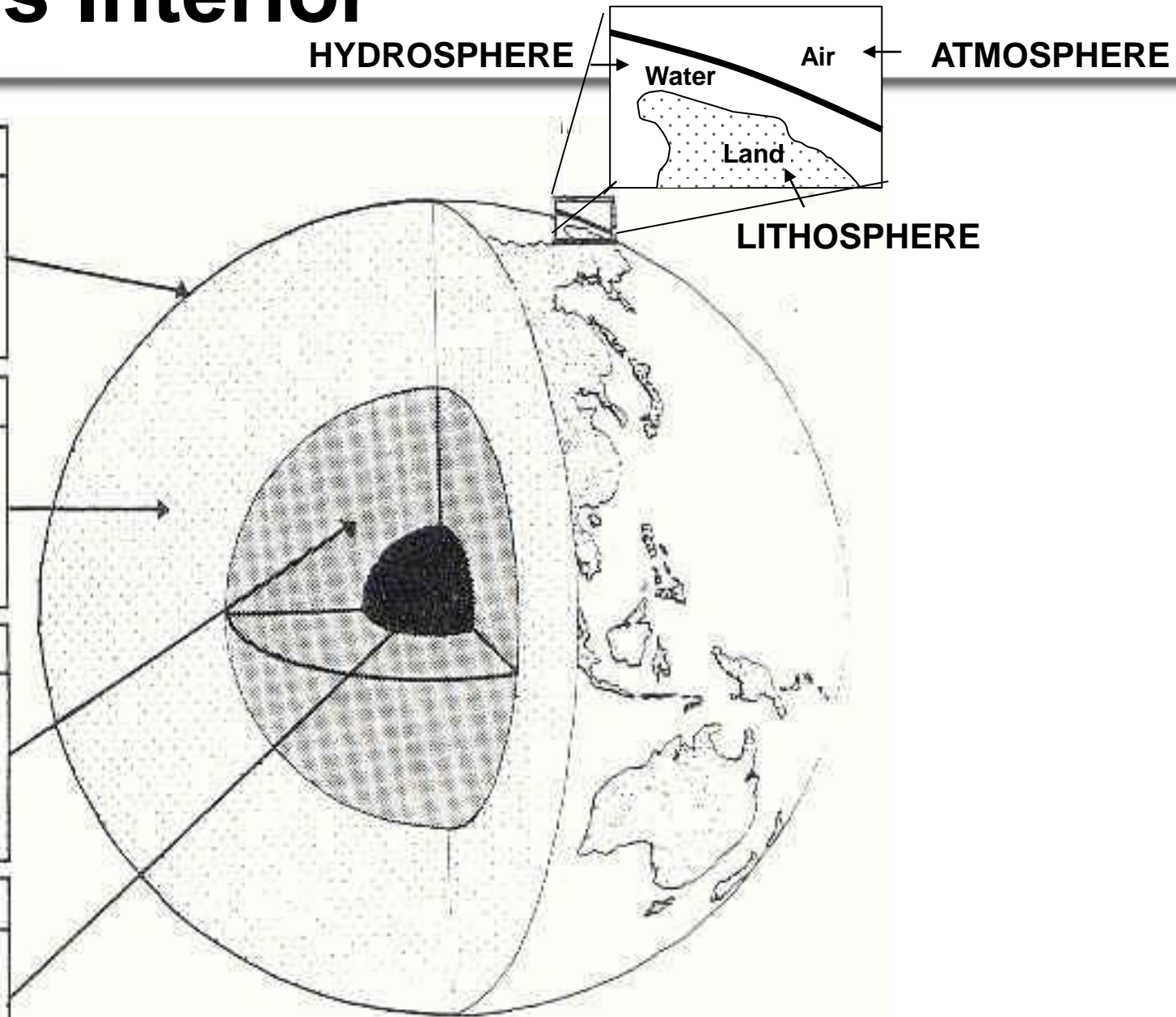
Earth's Interior

Crust
- 8-64 km thick
- cold & fragile

Mantle
- 1800 km thick
- hot & molten

Outer Core
- 2000 km thick
- 3 - 4000°C
- liquid

Inner Core
- 1400 km thick
- 5 - 6000°C
- <i>solid</i> Nickel and Iron





Rock Cycle

